

## **Abstract:**

**Title:** Retrospective study of infiltrating lobular carcinoma of breast with assessment of utility of p120 catenin /E-cadherin double immunostaining in the diagnosis.

**Introduction:** It is important to differentiate between ductal and lobular carcinoma of breast, especially in the in-situ stage where it has therapeutic implications. E-cadherin helps to differentiate between these two types because neoplastic lobular proliferations show loss of E-cadherin. However, 15-19% cases of Infiltrating lobular carcinoma shows aberrant E-cadherin positivity. P120 is a relatively new antibody which has been found to be useful in this differential, cytoplasmic localisation of which indicates a lobular phenotype.

**Aims and Objectives:** This study aims to study in detail the clinical and histomorphological features of invasive lobular carcinoma. We also compared the utility of p120/E-cadherin double immunostaining versus E-cadherin immunohistochemistry.

**Materials and Methods:** Cases diagnosed as lobular carcinoma (both in situ and invasive) (n=71) over the period from January 2012 to September 2016 were included in this study. Clinicopathologic parameters were assessed for each case. E-cadherin was available in 50 cases. Double immunolabelling by p120/E-cadherin was done on 37 cases and staining patterns, localisation, intensity, and proportion of positive cells were recorded. The utility of both the methods were compared.

**Results:** We have seen that 30% of lobular carcinoma cases showed aberrant immunostaining for E-Cadherin. All cases of ILC and LCIS showed cytoplasmic positivity for p120 on double immunostaining, indicating high sensitivity of the antibody. More importantly, p120 was positive in all cases with aberrant E-cadherin positivity:

**Conclusion:** Double immunostaining helps to diagnose invasive and in situ lobular carcinoma more accurately than using E-cadherin alone. In case of core biopsies where tissue is very less double immunostaining is helpful.

**Keywords:** Lobular carcinoma, p120, E-cadherin, double immunostaining.